



# *Littoral Combat Ship (LCS)*



## LCS Program Overview Navy League 2011 Sea-Air-Space Exposition



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# *Littoral Combat Ship*



- ◆ Two different Seaframes (ships) to fill same requirement
  - Lockheed Martin Monohull
  - General Dynamics / Austal Trimaran
- ◆ 55 total ships planned
- ◆ Targeted at critical capability gaps
  - Mines, small fast surface craft, diesel submarines
- ◆ Modular Mission Packages
  - Separately acquired for focused mission conduct
    - MCM, ASW, SUW
    - PMS 420 in PEO LMW
  - Advanced manned and unmanned air, surface, and underwater vehicles
  - Onboard sensors, weapons, command & control



*Built for the  
Asymmetric Age*



# LCS System Design: Requirements



| Flight 0 KPP's                          | THRESHOLD    | OBJECTIVE  |
|---|--------------|------------|
| Sprint Speed (kts)                      | 40           | 50         |
| Mission Package Payload (mt)            | 180          | 210        |
| Range @ Transit Speed (nm)              | 3500/14kts   | 4300/16kts |
| Navigational Draft (ft)                 | 20           | 10         |
| Core Crew manning                       | 50           | 15         |
| Interoperability (compliance with IERs) | All Critical | All        |
| Conduct DTE Scenario (ASW, MIW, SUW)    | OBJ = THR    | OBJ = THR  |

## Flight 0+

Added KPP's for:

- Force protection
- Survivability
- Materiel availability
- Systems training

DoD modified – requirement is for “Net Ready”

Sponsor modified select mission package KPP's

One change in Flight 0 CDD - reduction in KPP range at transit speed

Flight 0+ CDD, approved June 2008



Flight 0+ CDD added Total Ownership Cost KSA

Flight 0+ CDD changes did not impact program's ability to meet all mission requirements



# LCS Program Background



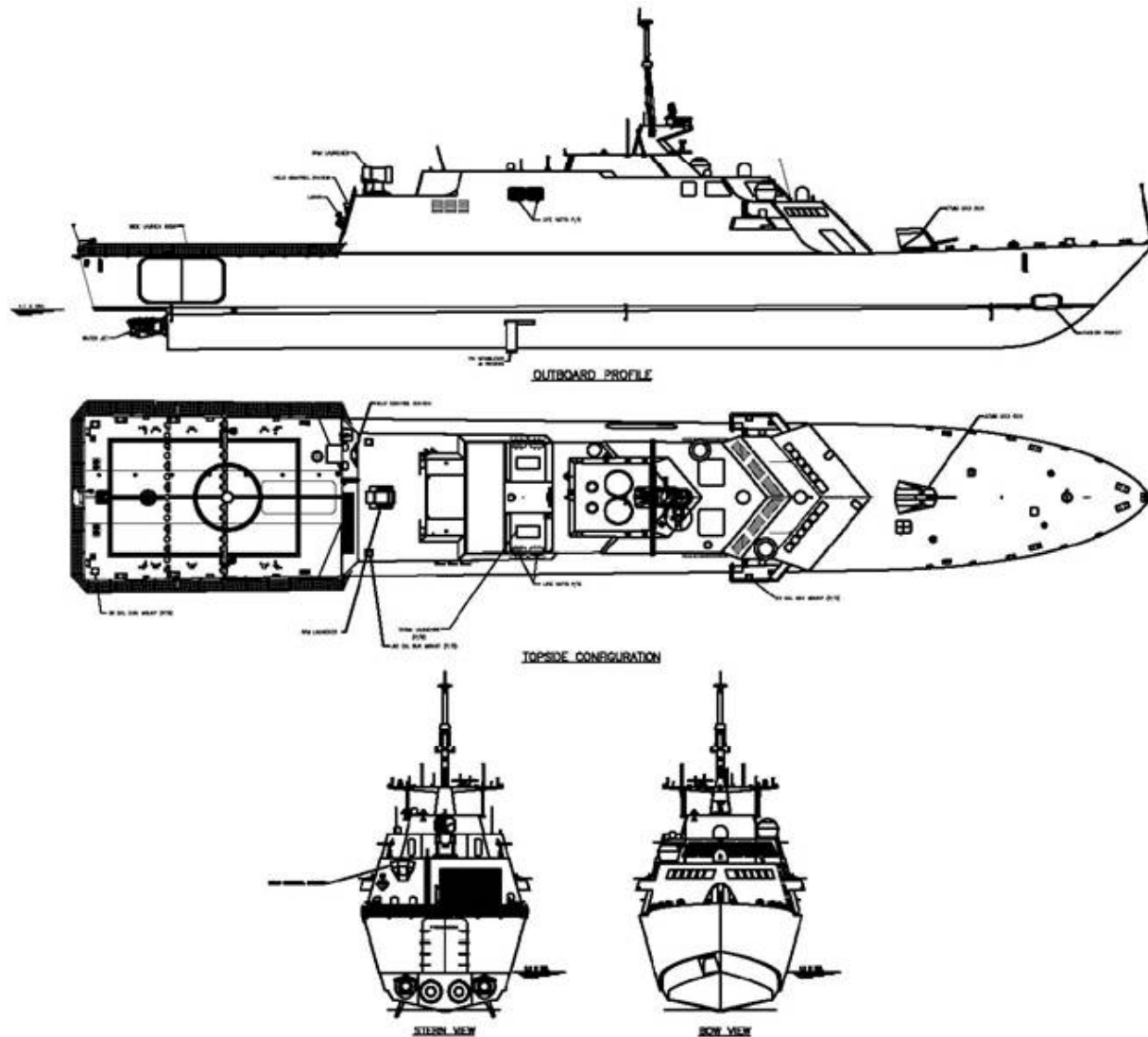
|              |           |   |  |
|--------------|-----------|---|--|
| 4 ½<br>years | 23 Feb 02 | ASN(RDA) directed establishment of LCS Program  |   |
|              | 17 Sep 02 | LCS Program Office Established (under PEO(S))   |  |
|              | 02 Dec 02 | Defense Authorization Act (Public Law 107-314) provided Congressional New Start authorization for LCS   |  |
|              | 17 Jul 03 | Preliminary Design Contracts (3) Awarded  |  |
|              | 27 May 04 | DAB: Milestone A / Program Initiation   |  |
|              | 28 May 04 | Down select to two for final design   |  |
|              | 15 Dec 04 | Exercised 1 <sup>st</sup> Detail Design & Construction option   |  |
|              | 02 Jun 05 | Lay Keel for FREEDOM (LCS 1)  |  |
|              | 14 Oct 05 | Exercised 2 <sup>nd</sup> Detail Design & Construction option   |  |
|              | 19 Jan 06 | Lay Keel for INDEPENDENCE (LCS 2)   |  |
|              | 23 Sep 06 | Launch FREEDOM (LCS 1)  |  |
|              | 14 Sep 07 | First Mine Warfare Mission Package Roll Out   |  |
|              | 28 Apr 08 | Launch INDEPENDENCE (LCS 2)   |  |
|              | 11 Jul 08 | First Surface Warfare Mission package Roll Out  |  |
|              | 19 Sep 08 | First Anti-Submarine Warfare Mission package Roll Out   |  |
|              | 18 Sep 08 | LCS 1 Delivery  |  |
|              | 04 Oct 08 | LCS 2 Christening   |  |
|              | 08 Nov 08 | LCS 1 Commissioning   |  |
|              | 23 Mar 09 | Awarded Contract for FORT WORTH (LCS 3)   |  |
|              | 01 May 09 | Awarded Contract for CORONADO (LCS 4)   |  |
|              | 18 Dec 09 | LCS 2 Delivery  |  |
|              | 16 Jan 10 | LCS 2 Commissioning   |  |
|              | 04 Dec 10 | Launch FORT WORTH (LCS 3)   |  |
|              | 29 Dec 10 | Awarded Lockheed Martin and Austal USA each a fixed-price incentive contract for design and construction of up to 10 ships each in a Block Buy . Awarded MILWAUKEE (LCS 5) and JACKSON (LCS 6). |  |
|              | 18 Feb 11 | LCS Seaframe Program achieved Milestone B   |  |
|              | 17 Mar 11 | Awarded DETROIT (LCS 7) and MONTGOMERY (LCS 8)  |  |

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# Lockheed Martin Design, Characteristics



## PRINCIPAL CHARACTERISTICS

- LOA 115.3 m (378.3 ft)
- Beam 17.5 m (57.4 ft)
- Draft 4.1m (13.5 ft)
- Displacement ~3000 MT

## PROPULSION & ELECTRICAL – CODAG

- Gas Turbines 2
- Diesels 2
- Waterjets 4
- Diesel Generators 4

## AVIATION FACILITIES

- Hangar for 1 MH – 60 R/S  
+ 3 VTUAV
- Flight Deck Area for 1 MH – 60 R/S

## SPRINT SPEED

- 40 Kts



# *USS FREEDOM (LCS 1)*



Refueling at Sea – Apr 09



Woodrow Wilson Bridge – 10 May 09



Spring 2008



Launch – 23 Sep 06

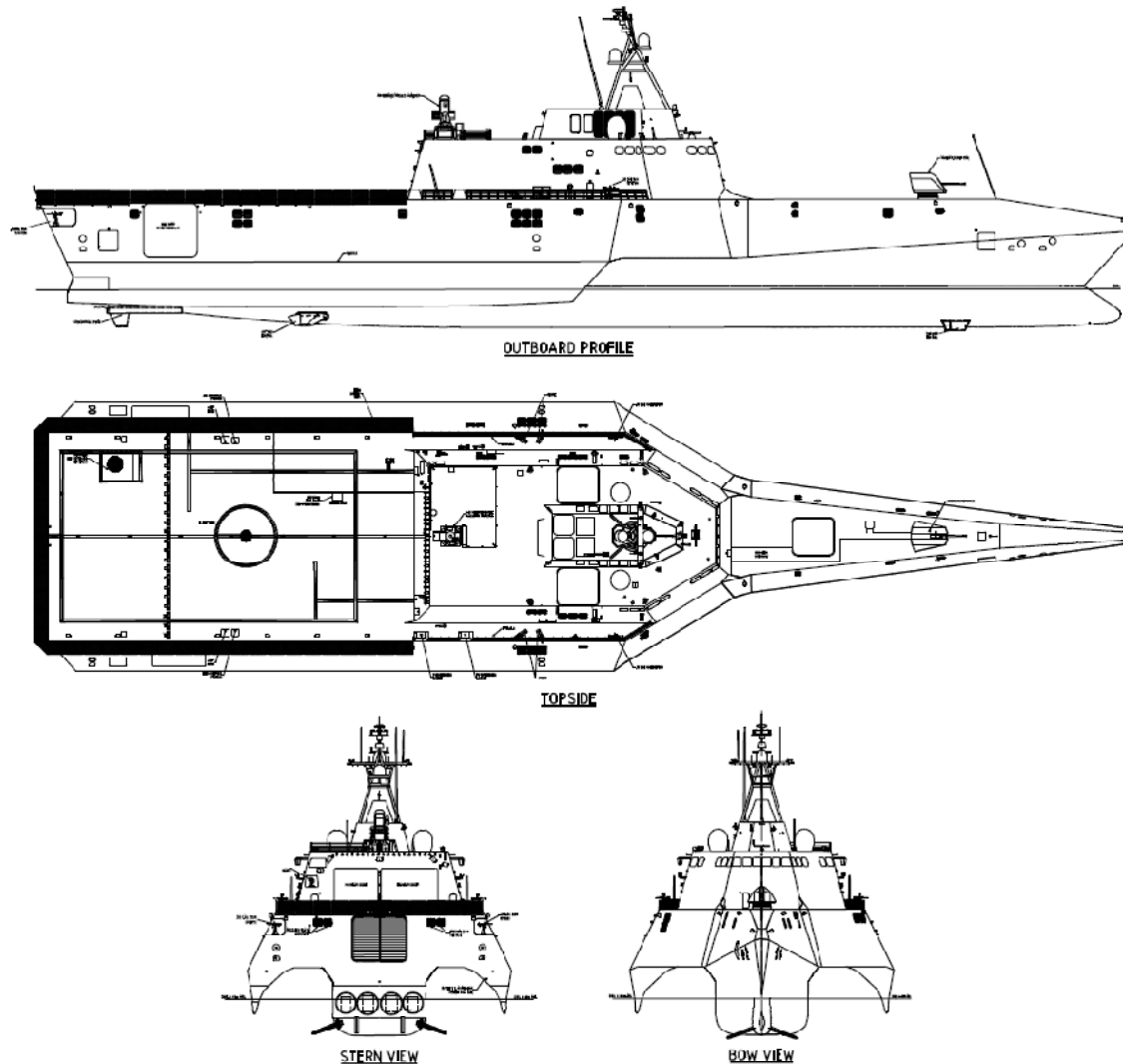


Builder's Trials – 28 Jul 08

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# General Dynamics Design, Characteristics



## PRINCIPAL CHARACTERISTICS

- LOA 127.6 m (418.6 ft)
- Beam 31.6 m (103.7 ft)
- Draft 4.3 m (14.1 ft)
- Displacement ~3000 MT

## PROPULSION & ELECTRICAL-CODAG

- Gas Turbines 2
- Diesels 2
- Waterjets 4
- Retractable Azi Thruster 1
- Diesel Generators 4

## AVIATION FACILITIES

- Hangar for 1 MH-60 R/S  
+ 3 VTUAV
- Flight Deck Area for 2 MH-60 R/S

## SPRINT SPEED

- 40 kts





# *INDEPENDENCE (LCS 2)*



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# Mission Package Defined



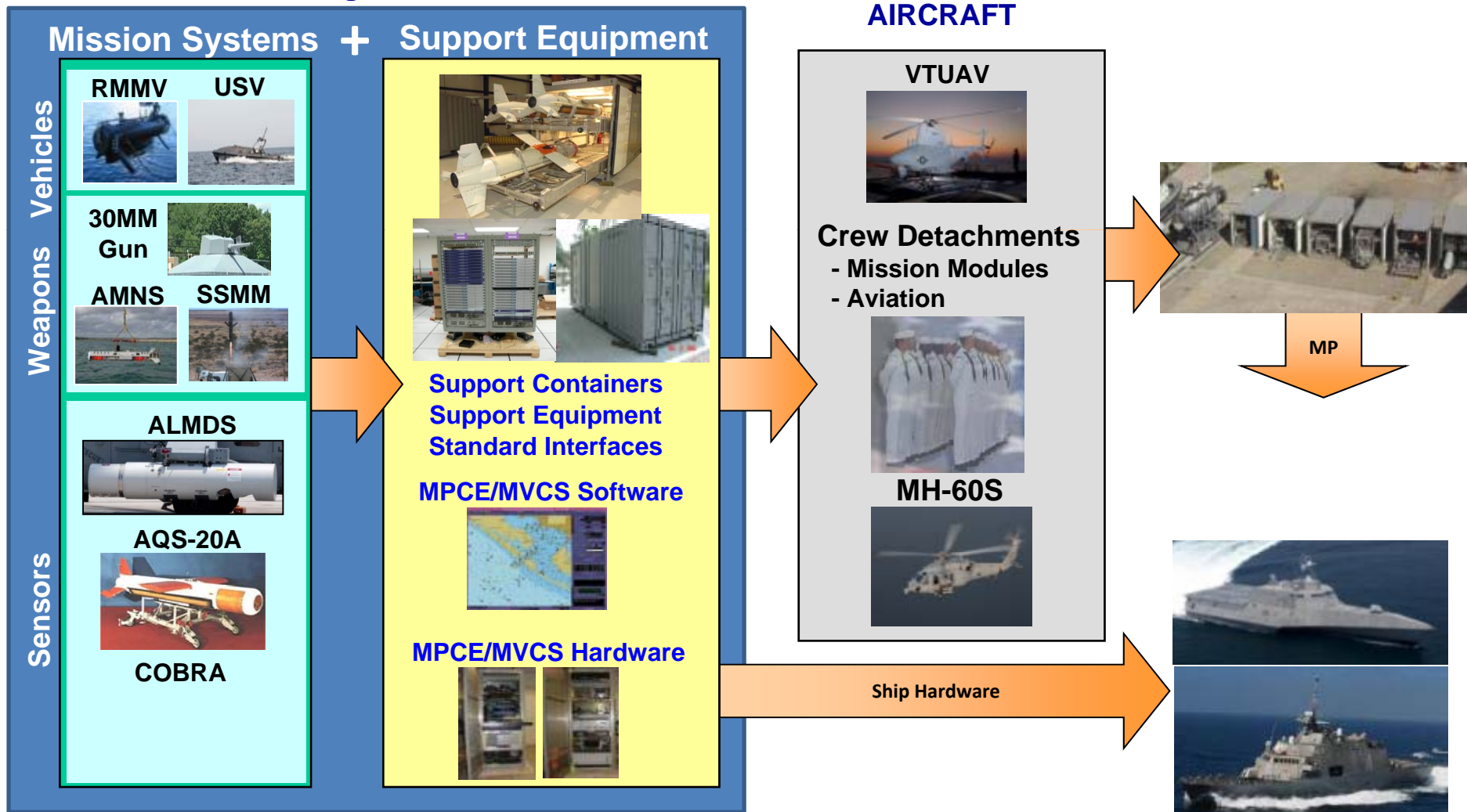
**MISSION MODULE**  
**LCS MM Program - PMS 420**

+

**CREW &  
SUPPORT  
AIRCRAFT**

=

**MISSION PACKAGE**



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# *Dual Award Acquisition Strategy*

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- ◆ Block Buy competition resulted in significant savings
- ◆ Created an opportunity to award each Offeror a fixed price incentive 10-ship block buy
- ◆ Required the Navy to add an additional ship in FY12 and to extend the Block buy through FY15 to achieve 10 ships per Offeror



# Contract Award Summary



- ◆ On 29 December 2010 the Navy awarded two shipbuilding contracts for a total of 20 ships from FY10 – FY15
- ◆ Lockheed Martin Team
  - 10 ships
- ◆ Austal Team
  - 10 ships

|                          | FY09 | FY10           | FY11 | FY12 | FY13 | FY14 | FY15 |
|--------------------------|------|----------------|------|------|------|------|------|
| Ship Procurement Profile | 2    | 2              | 2    | 4    | 4    | 4    | 4    |
|                          |      |                |      |      |      |      |      |
|                          |      | 1              | 1    | 2    | 2    | 2    | 2    |
|                          |      | Block Buy (10) |      |      |      |      |      |
|                          |      |                |      |      |      |      |      |
|                          |      | 1              | 1    | 2    | 2    | 2    | 2    |
|                          |      |                |      |      |      |      |      |
|                          |      |                |      |      |      |      |      |





# LCS Today



- ◆ USS FREEDOM (LCS 1) (LM)
  - Undergoing post delivery, test and trials
  - Completed maiden deployment and arrival to homeport of San Diego on 23 Apr 10
  - Participant in the 2010 RIMPAC exercises
- ◆ USS INDEPENDENCE (LCS 2) (GD)
  - Undergoing post delivery, test and trials
  - Completed 1st underway replenishment and structural test firing events week of 23 Sep 10
- ◆ FORT WORTH (LCS 3) (LM) awarded
  - Launched December 4, 2010
  - Projected delivery in February 2012
- ◆ CORONADO (LCS 4) (GD) awarded
  - Projected delivery in May 2012
- ◆ MILWAUKEE (LCS 5) and JACKSON (LCS 6) awarded on 29 Dec 10
- ◆ DETROIT (LCS 7) and MONTGOMERY (LCS 8) awarded on 17 Mar 11

